

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1-47. (Canceled)

48. (Currently amended) A method for the preparative synthesis of a molecule comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ , said method comprising contacting ~~an isolated or purified a recombinant~~  $\alpha 1 \rightarrow 2$ fucosyltransferase comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a molecule having a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety and recovering the molecule comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ .

49. (Currently amended) A method for the preparative synthesis of a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ , said method comprising contacting ~~an isolated or purified a recombinant~~ protein comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide having a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety and recovering the glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ .

50. (Previously presented) The method according to Claim 49 wherein the  $\alpha 1 \rightarrow 2$ fucosyltransferase is contacted with an oligosaccharide comprising a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety.

51. (Currently amended) A method for the preparative synthesis of fucosyl-GM1 comprising contacting ~~an isolated or purified a recombinant~~  $\alpha 1 \rightarrow 2$ fucosyltransferase

comprising an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and the ganglioside GM1 and recovering fucosyl-GM1.

52. (Currently amended) A method for the preparative synthesis of a molecule comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ , said method comprising contacting a recombinant  $\alpha 1 \rightarrow 2$  fucosyltransferase comprising the amino acid sequence depicted in Figure 5 (SEQ ID NO: 8), or a cellular fraction of a recombinant cell containing a vector having a nucleotide sequence that encodes and expresses an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) and having  $\alpha 1 \rightarrow 2$  fucosyltransferase activity, with GDP-fucose and a molecule having a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety and recovering a molecule comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ .

53. (Currently amended) A method for the preparative synthesis of a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ , said method comprising contacting ~~an isolated or purified a~~ recombinant ~~produced~~ rat  $\alpha 1 \rightarrow 2$  fucosyltransferase encoded by the nucleotide sequence depicted as SEQ ID NO: 7, or a cellular fraction of a recombinant cell containing a vector having ~~a the~~ nucleotide sequence as depicted as SEQ ID NO: 7 and having  $\alpha 1 \rightarrow 2$  fucosyltransferase activity, with GDP-fucose and a glycolipid, glycoprotein, glycolipoprotein or oligosaccharide having a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety and recovering a glycolipid, glycoprotein, glycolipoprotein or free oligosaccharide comprising  $\text{Fuc}\alpha 1 \rightarrow 2\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$ .

54. (Original) The method according to Claim 53 wherein the rat  $\alpha 1 \rightarrow 2$  fucosyltransferase is contacted with an oligosaccharide comprising a terminal  $\text{Gal}\beta 1 \rightarrow 3\text{GalNAc}$  moiety.

55-62. (Canceled)

63. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc, said method comprising contacting ~~an~~ **isolated or purified a recombinant**  $\alpha 1 \rightarrow 2$  fucosyltransferase comprising an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and a molecule having a terminal Gal $\beta 1 \rightarrow 3$  GalNAc moiety and recovering the molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc.

64. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc, said method comprising contacting ~~an~~ **isolated or purified a recombinant**  $\alpha 1 \rightarrow 2$  fucosyltransferase consisting of an amino acid sequence as depicted in Figure 5 (SEQ ID NO: 8) with GDP-fucose and a molecule having a terminal Gal $\beta 1 \rightarrow 3$  GalNAc moiety and recovering the molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc.

65. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc, said method comprising contacting ~~an~~ **isolated or purified a recombinant**  $\alpha 1 \rightarrow 2$  fucosyltransferase consisting of an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and a molecule having a terminal Gal $\beta 1 \rightarrow 3$  GalNAc moiety and recovering the molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc.

66. (Currently amended) A method for the preparative synthesis of a molecule comprising Fuc  $\alpha 1 \rightarrow 2$  Gal $\beta 1 \rightarrow 3$  GalNAc, said method comprising contacting ~~an~~ **isolated or purified a recombinant**  $\alpha 1 \rightarrow 2$  fucosyltransferase the amino acid sequence of which consists of a catalytic domain defined by amino acids numbers 28-380 as depicted in Figure 5 (SEQ ID NO: 8) or by amino acids numbered 1-353 as depicted in Figure 3A (SEQ ID NO: 10).

67. (Previously presented) The method according to claim 63, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

68. (Previously presented) The method according to claim 64, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

69. (Previously presented) The method according to claim 65, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

70. (Previously presented) The method according to claim 66, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein or a free oligosaccharide.

71. (Currently amended) A method for the preparative synthesis of a fucosyl-GM1, comprising contacting ~~an isolated or purified a recombinant~~  $\alpha 1 \rightarrow 2$  fucosyltransferase comprising an amino acid sequence as depicted in Figure 3A (SEQ ID NO: 10) with GDP-fucose and the ganglioside GM1, and recovering fucosyl-GM1.

72. (Currently amended) A method for the preparative synthesis of a molecule comprising  $\text{Fuc } \alpha 1 \rightarrow 2 \text{ Gal} \beta 1 \rightarrow 3 \text{ GalNAc}$ , said method comprising contacting a recombinant  $\alpha 1 \rightarrow 2$  fucosyltransferase comprising the amino acid sequence depicted in Figure 3A (SEQ ID NO: 10), or a cellular fraction of a recombinant cell containing a vector having a nucleotide sequence that encodes and expresses an amino acid sequence as depicted in Figure 3A (SEQ ID NO. 10) and having  $\alpha 1 \rightarrow 2$  fucosyltransferase activity, with GDP-fucose and a molecule having a terminal  $\text{Gal} \beta 1 \rightarrow 3 \text{ GalNAc}$  moiety and recovering a molecule comprising  $\text{Fuc } \alpha 1 \rightarrow 2 \text{ Gal} \beta 1 \rightarrow 3 \text{ GalNAc}$ .

73. (Previously presented) The method according to claim 72, wherein the molecule is a glycolipid, a glycoprotein, a glycolipoprotein, or a free oligosaccharide.

74. (Currently amended) The method according to claim 71, wherein the amino acid sequence is encoded by the nucleotide sequence as depicted as SEQ ID NO: **79**.

75. (Previously presented) The method according to claim 72, wherein the amino acid sequence is encoded by the nucleotide sequence as depicted as SEQ ID NO: 9.